CyberPower®

eu.cyberpowersystems.com

Professional Tower UPS
PP1500E/PP2200E
User's Manual

K01-P1K50A0-02

SAFETY WARNINGS

(SAVE THESE INSTRUCTIONS)

This manual contains important safety instructions. Please read and follow all instructions carefully during installation and operation of the unit. Read this manual thoroughly before attempting to unpack, install, or operate your UPS.

This equipment can be operated by any individuals with no previous training.

The socket-outlet shall be installed near the equipment and easily accessible.

During the installation of this equipment it should be assured that the sum of the leakage currents of the UPS and the connected loads does not exceed 3.5mA.

Attention, hazardous through electric shock. Also with disconnection of this unit from the mains, hazardous voltage still may be accessible through supply from battery. The battery supply should be therefore disconnected in the plus and minus pole at the quick connectors of the battery when maintenance or service work inside the UPS is necessary.

Do not dispose of batteries in a fire, the battery may explode.

Do not open or mutilate the battery or batteries, released electrolyte is harmful to the skin and eyes.

INSTALLING YOUR UPS SYSTEM

UNPACKING

Inspect the UPS upon receipt. The box should contain the following:
UPS Unit×1; PowerPanel® Software Disk×1; PowerPanel® Business Edition Software Disk×1; Serial Interface Cable (DB-9)×1; Telephone Cable×1; USB Device Cable×1;IEC-IEC Power Cord×4; IEC-Schuko power Cord×1 (PP2200E) ; UPS User Manual×1; PowerPanel® Software User Manual×1; PowerPanel® Business Edition Software User Manual×1.

### HOW TO DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT

1. Insure that the equipment plugged into the battery power-supplied outlets does not exceed the UPS unit's rated capacity (1500VA/1000W for PP1500E, 2200VA/1600W for PP2200E). If rated unit capacities are exceeded, an overload condition may occur and cause the UPS unit to shut down or the circuit breaker to trip.
2. If the power requirements of your equipment are listed in units other than Volt-Amps (VA), convert Watts (W) or Amps (A) into VA by doing the calculations below. Note: The below equation only calculates the maximum amount of VA that the equipment can use, not what is typically used by the equipment at any one time. Users should expect usage requirements to be approximately 60% of below value.

TO ESTIMATE POWER REQUIREMENTS

1. _____ Watts (W) x 2.0 = _____ VA or _____ Amps (A) x 230 = _____ VA
2. Add the totals up for all pieces of equipment and multiply this total by 0.6 to calculate actual requirements. There are many factors that can affect the amount of power that your computer system will require. The total load that you will be placing on the battery-powered outlets should not exceed 80% of the unit's capacity.

HARDWARE INSTALLATION GUIDE

1. Connect the equipment to your UPS outlets. The IEC-IEC power cords coming with the unit are used to connect your computer and monitor to the UPS. Items such as copiers, laser printers, vacuums, space heaters, or other large electrical devices should not be connected to the UPS. Please make sure that the total loads of your equipments are less than the maximum total power load of your UPS.

2. Use your computer power cord to connect the UPS to a wall outlet. Please avoid using extension cords and adapter plugs. (To maintain optimal battery charge, leave the UPS plugged in at all times.)

3. Press the UPS power button to turn it on. The "Power On" indicator will be illuminated in "Green".

4. Install your software and accessories. To use the software, simply use the enclosed serial interface or USB cable to connect the UPS and your computer.
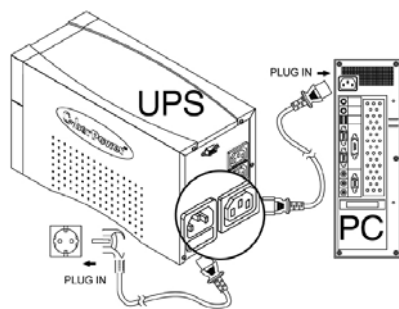
BASIC OPERATION

FRONT PANEL DESCRIPTION
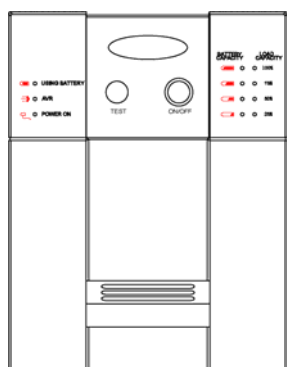
◆ Power Switch

Press the ON/OFF button to turn the UPS on or off.

◆ Test Switch

This UPS performs a self-test automatically when power is on. If the UPS passes the test, it returns to on-line operation. If the UPS fails the self-test, please recharge the battery for 4 hours and perform another self-test. If it fails after recharging the battery, please replace the battery.

◆ Battery Indicators

These indicators show a visual indication of the battery charge. If battery capacity is under 20%, no indicator LED will illuminate and the UPS starts beeping.

◆ Load Level Indicators

These LED indicators show a visual depiction of the UPS load. The load indicator LED will turn orange if the load is between 80 and 100%. If the load is under 20%, no indicator LED will illuminate.

◆ Using Battery Indicator

This illuminates during utility failure, indicating that the battery is supplying power to the battery-power supplied outlets.

◆ AVR Indicator

This LED indicates that the UPS is operating in automatic voltage regulation mode. When the LED is illuminated continuously, it indicates input over-voltage and the UPS unit bucks the voltage. When the LED is flashed in rotation, it indicates that the UPS unit is boosting input voltage.

◆ Power On Indicator

This LED is illuminated when the utility condition is normal and the UPS outlets are providing "clean power", free of surges and spikes.

REAR PANEL DESCRIPTION
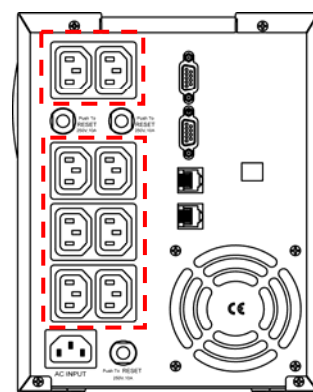
◆ Backup Power for Critical Loads

The UPS provides 2 battery powered and surge protected outlets for the most critical connected equipments and insures temporary uninterrupted operation of connected equipments during a power failure.
NOTE: When the UPS is overloaded, the UPS will interrupt power supply to the other 6 battery outlets and leave these 2 outlets for critical loads uninterrupted.

### ◆ Battery Backup and Surge Protection Outlets

This unit provides 6 battery-powered, surge-protected and AVR outlets for connected equipments and insures uninterrupted operation of connected equipment during a power failure.

◆ Circuit Breaker Reset for Overload Protection

Re-settable circuit breakers provide optimal overload protection.

◆ Communication Protection Ports
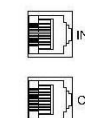
Ethernet RJ-45 Network Protection Ports protect your Phone, Fax and Modem from surges over the Ethernet/Phone line.

◆ Serial/ USB Ports

The PP1500E/PP2200E provides two serial and one USB ports to allow connection and communication between the UPS and two computers. This allows the simultaneous shutdown of two computer systems. These interfaces are also compatible with the UPS service provided by **Windows 2000, Windows, Windows NT, Windows XP, Windows Server 2003**.
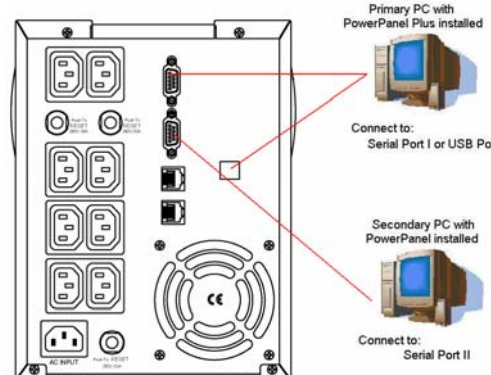
1. The Primary PC
To control and to make any change to the operation of the UPS, please install the PowerPanel® Business Edition in your primary computer and then connect it to the Serial Port I or USB port of the UPS.

2. The Secondary PC
The secondary computer with PowerPanel® installed should be connected to the serial port II. This PC will shutdown following the user settings in PowerPanel® Software when a power failure occurs but it is unable to exhibit any control over the UPS.

When power failure occurs, one of the following shutdown sequences will be executed:
1. If the Primary and Secondary serial ports are both in use: the Primary computer will start to count down (user controlled delay) for shutdown (User Control delay can be set in the PowerPanel® Business Edition software. Recommended time is 5 minutes). Once the Primary computer is shutdown, the UPS will signal the Secondary computer and initiate the Secondary to shutdown. The UPS default shutdown time is 2 minutes. Therefore, it is recommended that Secondary computer is set to shutdown within 1 minute in PowerPanel® Software.
2. If only the Secondary serial port is in use: the Secondary computer will shutdown following the user settings in PowerPanel® Software. However, the Secondary computer will not able to signal the UPS to shutdown. Therefore, the UPS will only power off when it is in low battery.

BATTERY REPLACEMENT AND STORAGE

Contact your dealer or call the number in this manual for information on battery replacement.

Read and follow the **IMPORTANT SAFETY INSTRUCTIONS** before servicing the battery. Service the battery under the supervision of personnel knowledgeable of batteries and their precautions. Keep unauthorized personnel away from batteries.

CAUTION! Use only the specified type of battery. See your dealer for replacement batteries.
CAUTION! The battery may present the risk of electrical shock. Do not dispose of batteries in a fire, as it may explode. Follow all local ordinances regarding proper disposal of batteries.
**CAUTION!** Do not open or mutilate the batteries. Release electrolyte is harmful to the skin and eyes and may be toxic.
CAUTION! A battery can present a high risk of short circuit current and electric shock. Take the following precautions before replacing the battery:
1. Remove all watches, rings or other metal objects.
2. Only use tools with insulated handles.
3. DO NOT lay tools or other metal parts on top of battery or any battery terminals.
4. Wear rubber gloves and boots.
5. Determine if the battery is inadvertently grounded. If inadvertently grounded, remove source of ground. **CONTACT WITH A GROUNDED BATTERY CAN RESULT IN ELECTRICAL SHOCK!** The likelihood of such shock will be reduced if such grounds are removed during installation and maintenance (applicable to a UPS and a remote battery supply not having a grounded circuit).

BATTERY REPLACEMENT PROCEDURE:

1. Turn off and unplug all connected equipments.
2. Turn the UPS off and unplug it from the AC power source.

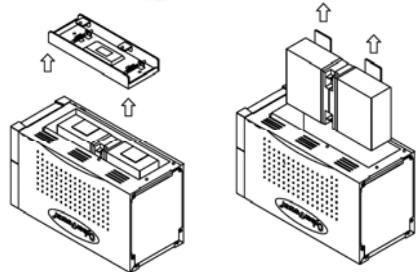3. Carefully turn the UPS upside down. Remove the 6 retaining screws and the cover.
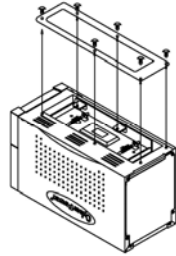
4. Disconnect the black and red wires from the battery set.
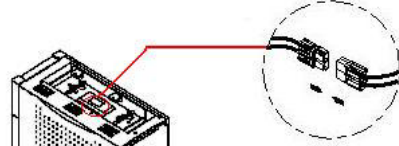
5. Remove the battery protection cover and take out the battery set from the compartment.

6. Slide a new battery pack into the unit. Assemble the battery protection cover, cable, screws in the reverse sequence of above steps.

REMINDER: Recharge the unit for 4 – 8 hours to ensure the UPS performs expected runtime

STORAGE:
First turn off your UPS and disconnect its power cord from the wall outlet. Disconnect all cables connected to the UPS to avoid battery drain. To store your UPS for an extended period, cover it and store with the battery fully charged. Recharge the battery every three months to insure battery life. If the battery remains uncharged for an extended period of time, it may suffer permanent loss of capacity.

TROUBLE SHOOTING

Problem	Possible Cause	Solution
The UPS does not perform expected runtime.	Batteries are not fully charged.	Recharge the battery by leaving the UPS plugged in.
	Battery is slightly worn out.	Contact CyberPower Systems at service@cyberpower-eu.com
The UPS will not turn on.	The on/off switch is designed to prevent damage by rapidly turning it off and on.	Turn the UPS off. Wait 10 seconds and then turn the UPS on.
	The unit is not connected to an AC outlet.	The unit must be connected to a 220-240V 50/60Hz outlet.
	The battery is worn out.	Contact CyberPower Systems at service@cyberpower-eu.com
	Mechanical problem.	Contact CyberPower Systems at service@cyberpower-eu.com
Outlets do not provide power to equipment	Circuit breaker is tripped due to overload	Turn the UPS off and unplug at least one piece of equipment. Wait 10 seconds, reset the circuit breaker and then turn the UPS on.
	Batteries are discharged	Allow the unit to recharge for at least 4 hours.
	Unit has been damaged by a surge or spike.	Contact CyberPower Systems at service@cyberpower-eu.com
PowerPanel® Business Edition is inactive (all icons are gray).	The serial/USB cable is not connected.	Connect the serial/USB cable to the UPS unit and an open serial port on the back of the computer. You must use the cable that came with the unit.
	The serial/USB cable is connected to the wrong port.	Try another serial/USB port of your computer.
	The unit is not providing battery power.	Shutdown your computer and turn the UPS off. Wait 10 seconds and turn the UPS back on. This should reset the unit.
	The serial cable is not the cable that was provided with the unit.	You must use the cable included with the unit for the software.

TECHNICAL SPECIFICATIONS

Model	PP1500E	PP2200E
Capacity (VA)	1500VA	2200VA
Capacity (Watts)	1000W	1600W
Input		
Input Voltage Range	220-240Vac	
Frequency Range	50/60 Hz	
Output		
On Battery Output Voltage	Pure Sine Wave at 230Vac +/- 7%	
On Battery Output Frequency	50/60 Hz	
Overload Protection	On Utility: Circuit Breaker, On Battery: Internal Current Limiting	
Surge Protection and Filtering		
Lightning / Surge Protection	Yes	
Network Protection	RJ45 (One In/One Out)	
Physical		
Total # of UPS Receptacles	(8) IEC 320 C13	
Maximum Dimensions	42.0cm*18.0cm*23.7cm	
Weight (Kg)	25.4	31.1
Battery		
Sealed Maintenance Free Lead Acid Battery	12V / 7AHx4	12V / 9AHx4
User Replaceable	Yes, Hot Swappable Battery Pack	
Typical Recharge Time	8 Hours	
Warning Diagnostics		
Indicators	Power On, Using Battery, AVR, Load Level, Battery Level	
Audible Alarms	On Battery, Low Battery, Overload	
Environmental		
Operating Temperature	+32°F to 95°F (0°C to 35°C)	
Operating Relative Humidity	0 to 95% NON-CONDENSING	
Communication		
PowerPanel® Business Edition Software	Windows 98/ME/2000/NT/XP, Server 2003	
Management		
Auto-Charger	Yes	
Auto-Restart	Yes	
USB Interface	Yes	
SNMP/HTTP Network	Optional	

DEFINITIONS FOR ILLUMINATED LED INDICATORS

Power On	AVR	Using Battery	Circuit Breaker	Alarm	Condition
On	Off	Off	Set	Off	Normal
On	Slow flash	Off	Set	Off	**AVR-** Max. boost 13% of input voltage for output regulation while input voltage is from 5% to 14% under nominal.
On	Rapid flash	Off	Set	Off	**AVR-** Max. boost 26% of input voltage for output regulation while input voltage is from 15% to 26% under nominal.
ON	On	Off	Set	Off	**AVR-** Max. buck 10% of input voltage for output regulation while input voltage is from 7% to 22% over nominal.
Off	Off	On	Set	Two Beeps	**Utility Failure-** The UPS is providing battery power to the Battery-Power Supplied outlets.
Off	Off	On	Set	Rapid Beeps	**Utility Failure-** The UPS is providing battery power. Rapid beeps indicate the battery will run out of charge within a few minutes.
On/Off	On/ Off /Flash	On/Off	Set	Long Beep	**Overload-** Turn the UPS off and unplug at least one piece of equipment from the UPS. Wait 5 seconds, reset the circuit breaker and restart the UPS.
Off	Off	On	Up	Long Beep	**Overload-** Turn the UPS off and unplug at least one piece of equipment from the UPS. Wait 5 seconds, reset the circuit breaker and restart the UPS.
Off	Off	Off	Set	Off	**Surge Protection Malfunction-** Power surge has damaged the unit. Please contact CyberPower Systems.

For more information, visit eu.cyberpowersystems.com or contact

CyberPower warrants to you, the original purchaser, that CyberPower UPS will be free from defects in design, assembly, materials and workmanship for two years (battery is only one year) from the date of original purchase. Any warranty services, please contact your local dealers or distributors